further distinguish the invention from the prior art of record. Claims 1 and 11 incorporate the subject matter of claims 2 and 12, respectively, that were cancelled without prejudice. Newly added claims 25 and 26 include subject matter similar to that found in dependent claim 24, and further introduce subject matter supported in the specification at least at page 8, lines 23-33, and page 20, line 8, to page 21, line 5.

The Examiner is respectfully requested to consider and make of record the two publications cited in the attached IDS: "Code-Hopping as a New Strategy to Improve Performance of S-CDMA Cellular Systems", B. Ünal et al., Proc. IEEE Global Telecommunications Conf., 1996, pp. 1316-1319, and "Variability of User Performance in Cellular DS-CDMA-Long versus Short Spreading Sequences", S. Parkvall, IEEE Transactions on Communications, Vol.: 48, No. 7, July 2000, and to allow the claims as now written. An early notification of the allowance of the now pending claims 1, 3-11, 13-26 is earnestly solicited.

The attached pages show the changes that were made to the claims.

Respectfully submitted:

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4/4/2002
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ADDED PAGES TO SHOW CHANGES MADE

Rewrite the claims as follows.

IN THE CLAIMS:

1. (Amended) A method for operating a code division multiple access communications system, comprising:

within a coverage area of a base station, assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and

during transmissions within ~~the~~ a cell, periodically hopping amongst individual ones of the spreading codes of the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, where the set of spreading codes comprises an all one's spreading code.

Cancel claim 2 without prejudice or disclaimer.

3. (Amended) A method ~~as in claim 1~~ for operating a code division multiple access communications system, comprising:

within a coverage area of a base station, assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and

during transmissions within a cell, periodically hopping amongst individual ones of the spreading codes of the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the set of spreading codes comprises a hopped sub-set of a larger set of spreading codes, and further comprising assigning a non-hopped sub-set of the larger set of spreading codes to individual ones of said plurality of subscriber stations for use on

a system access channel.

4. (Amended) A method ~~as in claim 1~~ for operating a code division multiple access communications system, comprising:

within a coverage area of a base station, assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and

during transmissions within a cell, periodically hopping amongst individual ones of the spreading codes of the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the set of spreading codes comprises a hopped sub-set of a larger set of spreading codes, and further comprising assigning a non-hopped sub-set of the larger set of spreading codes to individual ones of said plurality of subscriber stations for use on a system control channel.

5. (Amended) A method ~~as in claim 1~~ for operating a code division multiple access communications system, comprising:

within a coverage area of a base station, assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and

during transmissions within a cell, periodically hopping amongst individual ones of the spreading codes of the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the set of spreading codes comprises a hopped sub-set of a larger set of spreading codes, and further comprising assigning a non-hopped sub-set of the larger set of spreading codes to individual ones of said plurality of subscriber stations for use on a non-traffic channel.

6. (Amended) A method ~~as in claim 1~~ for operating a code division multiple access communications system, comprising:

within a coverage area of a base station, assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and

during transmissions within a cell, periodically hopping amongst individual ones of the spreading codes of the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the step of periodically hopping changes from a currently used spreading code to a next spreading code at a symbol rate or at a multiple of the symbol rate.

9. (Amended) A method ~~as in claim 1~~ for operating a code division multiple access communications system, comprising:

within a coverage area of a base station, assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and

during transmissions within a cell, periodically hopping amongst individual ones of the spreading codes of the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the system is a variable data rate system and wherein the step of periodically hopping changes from a currently used spreading code to a next spreading code at the symbol rate, or at a multiple of the symbol rate of one of the lowest symbol rate users.

10. (Amended) A method ~~as in claim 1~~ for operating a code division multiple access communications system, comprising:

within a coverage area of a base station, assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and

during transmissions within a cell, periodically hopping amongst individual ones of the spreading codes of the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the system is a variable data rate system and wherein the step of periodically hopping changes from a currently used spreading code to a next spreading

code at the symbol rate, or at a multiple of the symbol rate of the ~~highest symbol rate~~ lowest spreading gain users.

11. (Amended) A code division multiple access communications system, comprising a controller operating within a coverage area of a base station for assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and further comprising circuitry that is responsive to transmissions within ~~the~~ a cell for periodically hopping amongst the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the set of spreading codes comprises an all one's spreading code.

Cancel claim 12 without prejudice or disclaimer.

13. (Amended) A ~~system as in claim 11~~ code division multiple access communications system, comprising a controller operating within a coverage area of a base station for assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and further comprising circuitry that is responsive to transmissions within a cell for periodically hopping amongst the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the set of spreading codes comprises a hopped sub-set of a larger set of spreading codes, and where said controller further assigns a non-hopped sub-set of the larger set of spreading codes to individual ones of said plurality of subscriber stations for use on a system access channel.

14. (Amended) A ~~system as in claim 11~~ code division multiple access communications system, comprising a controller operating within a coverage area of a base station for assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and further comprising circuitry that is responsive to transmissions within a cell for periodically hopping amongst the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the set of spreading codes comprises a hopped sub-set of a larger set of spreading codes, and where said controller further assigns a non-hopped sub-set of the larger set of spreading codes to individual ones of said plurality of subscriber stations for use on

a system control channel.

15. (Amended) A ~~system as in claim 11~~ code division multiple access communications system, comprising a controller operating within a coverage area of a base station for assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and further comprising circuitry that is responsive to transmissions within a cell for periodically hopping amongst the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the set of spreading codes comprises a hopped sub-set of a larger set of spreading codes, and where said controller further assigns a non-hopped sub-set of the larger set of spreading codes to individual ones of said plurality of subscriber stations for use on a non-traffic channel.

16. (Amended) A ~~system as in claim 11~~ code division multiple access communications system, comprising a controller operating within a coverage area of a base station for assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and further comprising circuitry that is responsive to transmissions within a cell for periodically hopping amongst the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein said circuitry changes from a currently used spreading code to a next spreading code at a symbol rate or at a multiple of the symbol rate.

19. (Amended) A ~~system as in claim 11~~ code division multiple access communications system, comprising a controller operating within a coverage area of a base station for assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and further comprising circuitry that is responsive to transmissions within a cell for periodically hopping amongst the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the system is a variable data rate system and wherein the step of periodically hopping changes from a currently used spreading code to a next spreading code at the symbol rate, or at a multiple of the symbol rate of the lowest symbol rate users.

20. (Amended) A ~~system as in claim 11~~ code division multiple access communications system,

comprising a controller operating within a coverage area of a base station for assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and further comprising circuitry that is responsive to transmissions within a cell for periodically hopping amongst the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, wherein the system is a variable data rate system and wherein the step of periodically hopping changes from a currently used spreading code to a next spreading code at the symbol rate, or at a multiple of the symbol rate of the ~~highest symbol rate~~ lowest spreading gain users.

21. (Amended) A synchronous, direct sequence code division multiple access communications system, comprising a controller operating within a coverage area of a base station for assigning a set of spreading codes to individual ones of a plurality of subscriber stations; and further comprising circuitry that is responsive to transmissions within ~~the~~ a cell for periodically hopping amongst the set of spreading codes at a symbol rate or a multiple of a symbol rate such that at any given time no two subscriber stations interfere with one another by the use of the same spreading code, wherein the set of spreading codes comprises a hopped sub-set of a larger set of spreading codes, and where said controller further assigns a non-hopped sub-set of the larger set of spreading codes to individual ones of said plurality of subscriber stations for use on at least one of a system access channel or a system control channel.

Please add the following new claims:

25. (New) A synchronous code division multiple access communications system, comprising a controller operating within a coverage area of a base station for assigning a set of spreading codes to individual ones of a plurality of subscriber stations, said spreading codes comprising orthogonal, Walsh-Hadamard constructions having a variable spreading factor; and further comprising circuitry that is responsive to transmissions within a cell for periodically hopping amongst the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, where the hops between spreading codes are made at a symbol boundary of at least one of the plurality of subscriber stations.

26. (New) A method for operating a synchronous code division multiple access communications system, comprising:

within a coverage area of a base station, assigning a set of spreading codes to individual ones of a plurality of subscriber stations, the spreading codes comprising orthogonal, Walsh-Hadamard constructions having a variable spreading factor; and

during transmissions within a cell, periodically hopping amongst individual ones of the spreading codes of the set of spreading codes such that at any given time no two subscriber stations operate with the same spreading code, where the hops between spreading codes are made at a symbol boundary of at least one of the plurality of subscriber stations.